during six to nine months, but a cold climate at altitudes above 1800 meters, with temperatures above 10° C. during one to three months.

8. The eastern Patagonian region, temperate climate, with temperatures above 10° C. during four or five months.

9. The western Patagonian and Staten Island region, a cold climate, having temperatures above 10° C. during one to five months according to the altitude and longitude. Staten Island has no month with mean temperature above 10° C.

THE ZONDAS.

In the course of his more detailed remarks on the peculiarities of each of these climatic regions Dr. Chavanne mentions the zondas as a special characteristic of the elevated steppes. These are local hot winds, whose origin and effects are due to the local topography, the general configuration of the orography and the peculiarities of the surface of the land, as to the amount of sand, clay, and boulders. They occur with great frequency and regularity in the summer months and in the afternoon hours, often blowing with the strength of a gale or storm; during their prevalence the temperature rises by from 10° to 19°, while at the same time the relative humidity sinks to 0 per cent.

[It is evident that here we have to do with a phenomenon analogous to the hot, dry winds of Kansas and Nebraska. These are exaggerated or intensified illustrations of the foehn winds of Switzerland, the chinook winds of Montana, and of the afternoon gale that descends from Table Mountain into the streets of Cape Town. The temperature of the ground does not add much to the temperature of these winds; the latter is due primarily to the compression and dynamic warming of air forced down from moderate heights in the atmosphere; the hot winds descend as well during the night as during the day. The time when, the place where, and the reason why they descend is not yet clearly understood.—ED.]

TEMPERATURE GRADIENT.

A study of the diminution of temperature with altitude shows that on the average for all these surface stations the vertical temperature gradient ranges between 0.55° C. and 0.20° C. per 100 meters, the general average being 0.35° C. The diminution of temperature with latitude is on the average much larger in the eastern portion of the republic and at sea level, where it amounts to about 0.6° C. per degree of latitude; it is much less in the western or mountainous regions, where it amounts to 0.21° C. per degree of latitude.

Chavanne's detailed tables of temperature and rainfall will probably furnish an excellent guide for the selection of plants intended for importation into or export from Argentina. They will also serve as a basis for special phenological studies.

THE WEATHER IN VENEZUELA.

Mr. E. H. Plumacher, United States Consul at Maracaibo, under date of March 19, says:

We are having here very unusual weather. It blows every day with great velocity, but without a cloud in the sky. It seems that in the upper strata a fine dust is moving, which gives the sky a hazy hue. The velocity of the wind is that which is called a "double-reefed topsail" wind. Outside of the bar and in the Gulf of Maracaibo the navigation has been rough and steamers leaving port have had very unpleasant voyages. We have never experienced such weather in this section of Venezuela, and consequently the country is suffering greatly. Since September, 1902, we have not had any rains, and consequently sickness abounds from using bad water. During the first twenty days of this month we have had five slight seismic movements.

THE CUBAN METEOROLOGICAL SERVICE.

Mr. W. C. Devereaux, Observer Weather Bureau, reports from Havana, Cuba, under date of April 11, that the Cuban Meteorological Service was officially inaugurated on that date, at 12 o'clock noon, by the president of the republic, by dropping the time ball. Señor Enrique A. Del Monte is chief of the central station for meteorology, climatology, and crops (meteorologia, climatologia y cosechas), and informs us that, "beginning with April 13, 1903, he will take observations every two hours, from 8 a. m. to 4 p. m., inclusive."

It seems fair to assume that this latter expression relates to complete personal records, including clouds and miscellaneous phenomena, and that the ordinary records of maximum and minimum temperatures and the continuous registers of temperature, pressure, wind, rain, and sunshine will be kept up by means of the proper apparatus, as at all first class stations. Meteorology is indebted to Félipe and Andrés Poey for meteorological records at Havana many years ago, which were at that time deemed among the most elaborate of their kind. Continuous registers have also been maintained at the Colegio de Belen since 1873, by the use of the Secchi meteorograph. We also owe to Señor Del Monte himself the establishment of the meteorological observatory at the Vedado Park and the series of observations published in the MONTHLY WEATHER REVIEW for April, 1900. The advantageous location of the new central meteorological office and the introduction of the newest type of self-registering apparatus will, it is hoped, give increased precision and reliability to the new series of records. As there has not yet been devised any satisfactory continuous register of the ventilated wet-bulb thermometer or of the ventilated dew-point apparatus, we must regard it as a distinct addition to our knowledge of West Indian climates that Señor Del Monte is maintaining a series of personal observations of the moisture of the air at intervals of two hours—from 8 a. m. to 4 p. m.

STUDENT ASSISTANTS IN THE UNITED STATES WEATHER BUREAU.

A recent note from Dr. O. L. Fassig, Section Director, United States Weather Bureau, Baltimore, Md., states that—

Mr. Benjamin L. Miller, who during the past two years has held the position of student assistant in the Baltimore office of the Weather Bureau, has been appointed assistant in geology in Bryn Mawr College. Dr. Miller completed his studies in the Johns Hopkins University in February, 1903, receiving the degree of Ph. D. on February 23.

In addition to instruction in geology at Bryn Mawr, Dr. Miller will give a course of two hours per week throughout the year in meteorology, which has heretofore not been taught as a separate study in this institution.

During the past five years, and in addition to his specific Weather Bureau work, Dr. Fassig has actively maintained a course of instruction in meteorology for the students of the Johns Hopkins University; probably thirty or more post graduates have attended these lectures. Several of these are now giving courses in meteorology in other institutions. The two student assistants annually allowed to the Baltimore office have, we believe, also been students of geology and physics and have attended these meteorological lectures. Although the student assistants of the Weather Bureau generally enter its service, yet we shall not fail to recognize the great importance of the work that they may do outside of the service as teachers of climatology. The future progress of the higher meteorology depends upon securing here and there a man of genius from among the thousands who have studied climatology and meteorology under the earnest teachers of our colleges and universities.

AN ARCTIC MAGNETICAL AND METEOROLOGICAL STATION.

A letter addressed to Dr. L. A. Bauer, of the United States Coast and Geodetic Survey, from Christiania, Norway, dated April 1, from Roald Amundsen, leader of the Norwegian Magnetic North Pole Expedition, states that he will start in May